



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

re Application of:

Gordon S. BAXTER et al.

Application No. : 10/509,106

Filed: September 27, 2004

For: DATABASE SEARCHING METHOD  
AND SYSTEM

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GAU: 2168

Examiner: Jay A. Morrison

Attorney Docket No.: 000131-00019

Date: September 25, 2007

APPEAL BRIEF TRANSMITTAL

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Attached is a Brief on Appeal. Please charge any fees, including fees for extension of time under 37 C.F.R. § 1.136(a), or credit any overpayment thereof, to Deposit Account No. 23-2185 (000049-00110). A duplicate copy of this sheet is attached.

Respectfully submitted,

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**APPEAL BRIEF**

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Sir:

The Appellant, through undersigned counsel, respectfully submits the present Appeal Brief in support of the Notice of Appeal filed June 25, 2007.

**I. Real party in interest**

The real party in interest is the assignee, BioWisdom Limited of Merli Place, Milton Road, Cambridge, United Kingdom.

**II. Related appeals and interferences**

There are no related appeals or interferences.

**III. Status of claims**

Claims 1-28 have been presented for examination. Claim 22 has since been canceled. Claims 1-21 and 23-28 are pending and finally rejected, and all of them form the subject matter of this appeal.

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**IV. Status of amendments**

No amendments after the Final Rejection have been presented.

**V. Summary of claimed subject matter**

The invention as defined by claim 1 and its dependent claims is directed to a method of searching a plurality of information databases (Fig. 1, databases 2, 3, 4; page 7, lines 19-27) for records related to an input search term, comprising: selecting a group of related search terms containing the input search term, from a search database of terms arranged in predefined groups according to their relationship with one another, wherein each term is present within one or more of the information databases (Fig. 1, search database 7; Fig. 2, steps 102-104; page 10, lines 23-32; page 12, line 27, through page 13, line 6); searching for terms from the selected group within a data repository comprising selected data previously extracted from the records of each information database, to identify corresponding records within the information databases which contain the terms within the selected group (Fig. 1, data repository 5 and query system 6; Fig. 2, step 105; page 7, lines 28-37; page 13, lines 6-9), the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases (page 3, lines 6-10; page 4, lines 15-19; page 8, line 34, through page 10, line 22; page 12, lines 2-10); and displaying at least some of the corresponding records to a user (Fig. 2, step 106; page 13, lines 9-12).

The invention as defined by claim 23 and its dependent claims is directed to a database searching system for searching a plurality of information databases (Fig. 1, databases 2, 3, 4; page 7, lines 19-27) for records related to an inputted search term, the system comprising: a search database comprising related search terms arranged into predefined groups according to

their relationship to one another, wherein each term is present within one or more of the information databases (Fig. 1, search database 7; Fig. 2, steps 102-104; page 10, lines 23-32; page 12, line 27, through page 13, line 6); selection means, for selecting a group containing the inputted search term from the search database (Fig. 1, query system 6; page 7, lines 34-37); a data repository comprising selected data previously extracted from the records of each information database (Fig. 1, data repository 5; Fig. 2, step 105; page 7, lines 28-37; page 13, lines 6-9); searching means for searching the repository for terms from the selected group to identify corresponding records within the information databases which contain the terms within the selected group (Fig. 1, query system 6; page 7, lines 34-37), the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases (page 3, lines 6-10; page 4, lines 15-19; page 8, line 34, through page 10, line 22; page 12, lines 2-10); and displaying means for displaying at least some of the corresponding records to a user (Fig. 1, query system 6; Fig. 2, step 106; page 13, lines 9-12).

**VI. Ground of rejection to be reviewed on appeal**

The rejection of claims 1-21 and 23-28 under 35 U.S.C. § 103(a) over *Cappi* in view of *Chappell* and *Hazlehurst et al.*

**VII. Argument**

For the reasons set forth below, the Appellant respectfully submits that the combination of *Cappi* with *Chappell* and *Hazlehurst et al.* would not have taught, suggested, or resulted in all limitations of any of claims 1-21 and 23-28.

According to the present claimed invention, the selected data from the plurality of information databases are semantically normalized in the data repository and are manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases. That limitation is recited in the searching step of claim 1 and in the searching means recitation of claim 23.

The Final Rejection acknowledges that neither *Cappi* nor *Chappell* teaches or suggests that limitation, but instead points to *Hazlehurst et al* in column 2, lines 35-38, for teaching to refine the semantic structure. However, the reference teaches refining the semantic structure of the vector spaces rather than of the data themselves. While the documents are converted to a standard format (e.g., from HTML to plain text), that is a *format* conversion rather than a semantic normalization. Thus, the Applicants respectfully submit that the new combination of references would not have taught or suggested the present claimed invention.

The wording referred to at column 2, lines 35 to 38 does not teach or suggest that the selected data are semantically normalized in the data repository and manipulated in that repository so as to speed the querying. The disclosure in *Hazlehurst* has nothing to do with the semantic normalization of data or of concepts. In fact, that reference is specifically referring to the training and optimization of documents classification schemes.

In other words, in the combination of references proposed in the Final Rejection, the *data* would not be semantically normalized as recited in the present claimed invention. The teaching the prior art to refine the semantic structure of *vector spaces* would not have taught or suggested the semantic normalization of *data*, which is a completely separate thing. The only teaching to do so comes from the present claimed invention itself.

For the reasons set forth above, the Appellant respectfully submits that the present claimed invention would not have been obvious over the proposed combination of references. Therefore, the Appellant respectfully urges reversal of the rejection.

For the reasons set forth above, the Appellant respectfully urges reversal of both of the outstanding grounds of rejection.

Respectfully submitted,

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## **VIII. Claims appendix**

1. A method of searching a plurality of information databases for records related to an input search term, comprising:

selecting a group of related search terms containing the input search term, from a search database of terms arranged in predefined groups according to their relationship with one another, wherein each term is present within one or more of the information databases;

searching for terms from the selected group within a data repository comprising selected data previously extracted from the records of each information database, to identify corresponding records within the information databases which contain the terms within the selected group, the selected data from the plurality of information databases being semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases; and

displaying at least some of the corresponding records to a user.

2. A method according to claim 1, wherein the data repository is arranged as a number of records, each record corresponding to a record present within one of the information databases.

3. A method according to claim 2, wherein each record in the repository comprises a pointer identifying the record in the information database to which it relates.

4. A method according to claim 1, wherein the amount of selected data in the repository is less than that contained in the information databases.

5. A method according to claim 4, wherein the data in the repository comprises definitional data.

6. A method according to claim 5, wherein the definitional data describe data in terms of its nature, use or value.

7. A method according to claim 4, wherein the data in the repository comprises semantic data.

8. A method according to claim 7, wherein the semantic data describes alternative terms for the data in the information database.

9. A method according to claim 8, wherein the semantic data describe synonymous terms in the information databases.

10. A method according to claim 4, wherein each term in each predefined group within the search database has associated meta-data indicating the one or more information databases within which the term is contained.

11. A method according to claim 10, wherein the associated meta-data indicates the corresponding records of the one or more information database(s) within which the associated meta-data is contained.



12. A method according to claim 1, wherein a number of records within the data repository are assigned to a domain.

13. A method according to claim 4, wherein the terms in the predefined groups within the search database are synonymous terms.

14. A method according to claim 1, wherein each group has an associated group identifier.

15. A method according to claim 13, wherein each group has associated descriptive data for describing the selected group.

16. A method according to claim 12, further comprising determining a context of any repository records identified.

17. A method according to claim 16, wherein the context is determined by limiting the search to repository records having a common domain.

18. A method according to claim 16, wherein the context is determined by searching for the presence of one or more of the terms within the selected group, in the corresponding record of the repository.

19. A method according to claim 16, wherein the context is determined by searching in related classes of terms.

20. A method according to claim 16, wherein the context is determined by the proximity of one or more related terms within a record.

21. A computer program product comprising; a computer readable medium; and computer program code means on the computer readable medium adapted to perform the method according to claim 1.

23. A database searching system for searching a plurality of information databases for records related to an inputted search term, the system comprising:

a search database comprising related search terms arranged into predefined groups according to their relationship to one another, wherein each term is present within one or more of the information databases;

selection means, for selecting a group containing the inputted search term from the search database;

a data repository comprising selected data previously extracted from the records of each information database;

searching means for searching the repository for terms from the selected group to identify corresponding records within the information databases which contain the terms within the selected group, the selected data from the plurality of information databases being

semantically normalized in the data repository and being manipulated in the data repository to speed querying in the data repository relative to the plurality of information databases; and displaying means for displaying at least some of the corresponding records to a user.

24. A system according to claim 23, wherein further comprising an input means for supplying the inputted search term to the selection means.

25. A system according to claim 24, wherein the input means comprises a communication network such that the inputted search term is received from a remote location.

26. A system according to claim 23, further comprising a plurality of information databases from which data is extracted for storage within the data repository.

27. A system according to claim 23, wherein the data repository, is stored upon a separate computer system with respect to the information databases.

28. A method according to claim 14, wherein each group has associated descriptive data for describing the group.

**IX. Evidence appendix**

There is no evidence of record under 37 C.F.R. § 1.130, 1.131 or 1.132.

**X. Related proceedings appendix**

There are no related proceedings.